

ABSTRACT OF THE DISCLOSURE

Concerning a semiconductor device having a stacked capacitor including MOS and Poly-Poly capacitors, a semiconductor device structured without a need for excessive fine processing is provided. Also, a semiconductor device is provided which offers an
5 increased capacitance density, while suppressing increases in manufacturing process and manufacturing cost. A highly-conductive diffusion layer doped with an N-type or P-type dopant is formed on a semiconductor substrate. A gate oxide film is formed in the surface of the highly-conductive diffusion layer by oxidizing the highly-conductive diffusion layer. A first polysilicon layer doped with an N-type or P-type dopant is
10 formed on the gate oxide film. A dielectric layer is formed on the first polysilicon layer. A second polysilicon layer doped with an N-type or P-type dopant is formed on the dielectric layer. A first aluminum interconnection provided on an insulating layer is electrically connected to the highly-conductive diffusion layer and the second polysilicon layer through a contact hole.